

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A light emitting device comprising:

a plurality of pixels;

each of the plurality of pixels having a plurality of sub-pixels; and

each of the plurality of sub-pixels having a light emitting element ~~and~~ , a thin film transistor, an erasing gate signal line and a power supply line,

wherein each of the plurality of sub-pixels having a same area of effective light emission; ~~and~~

wherein the light emitting element does not emit the light when the thin film transistor is on ;

wherein a gate electrode of the thin film transistor is electrically connected to the erasing gate signal line; and

wherein one of a source region and a drain region of the thin film transistor is electrically connected to the power supply line.

2. (Currently Amended) A light emitting device comprising:

a plurality of pixels;

each of the plurality of pixels having a plurality of sub-pixels; and

each of the plurality of sub-pixels having a light emitting element ~~and~~ , a first thin film transistor ~~and~~ , a second thin film transistor, an erasing gate signal line and a power supply line,

wherein a current flowing in the light emitting element is controlled by the first thin film transistor;

wherein each of the plurality of sub-pixels having a same area of effective light emission; ~~and~~

wherein the light emitting element does not emit the light when the second thin film transistor is on ;

wherein a gate electrode of the second thin film transistor is electrically connected to the erasing gate signal line; and

wherein one of a source region and a drain region of the second thin film transistor is electrically connected to the power supply line.

3. (Original) A device according to claim 2,

wherein the thin film transistor in each of the plurality of sub-pixels has a same polarity.

4. (Original) An electronic apparatus using the light emitting device of claim 1.

5. (Currently Amended) A method of operating a light emitting device,

said light emitting device comprising:

a plurality of pixels;

each of the plurality of pixels having a plurality of sub-pixels; and

each of the plurality of sub-pixels having a light emitting element ~~and~~ , a thin film transistor, an erasing gate signal line and a power supply line,

said method comprising the steps of:

controlling a period of time in which the light emitting element emits a light in each of the plurality of sub-pixels by a digital video signal to thereby control a gradation of the respective pixels,

wherein each of the plurality of sub-pixels having a same area of effective light emission; ~~and~~

wherein the light emitting element does not emit the light when the thin film transistor is on ;
wherein a gate electrode of the second thin film transistor is electrically connected to the erasing gate signal line; and
wherein one of a source region and a drain region of the second thin film transistor is electrically connected to the power supply line.

6. (Currently Amended) A method of operating a light emitting device,
said light emitting device comprising:
a plurality of pixels;
each of the plurality of pixels having a plurality of sub-pixels;
each of the plurality of sub-pixels having a light emitting element ~~and~~ , a thin film transistor, an erasing gate signal line and a power supply line;
each of the plurality of sub-pixels having a same area of effective light emission,
said method comprising the steps of:
having a plurality of sub-frame periods in one frame period in the plurality of sub-pixels; and
selecting whether or not the light emitting element in each of the plurality of sub-pixels emits a light for each of the plurality of sub-frame periods by each of bits of digital video signals,
wherein the larger the sum of lengths of sub-frame periods in which the light emitting element in each of the plurality of sub-pixels emits a light becomes, the higher a gradation number of the respective pixels becomes; ~~and~~
wherein the light emitting element does not emit the light when the thin film transistor is on;
wherein a gate electrode of the second thin film transistor is electrically connected to the erasing

gate signal line; and

wherein one of a source region and a drain region of the second thin film transistor is electrically connected to the power supply line.

7. (Original) A method of operating a light emitting device,

said light emitting device comprising:

a plurality of pixels;

each of the plurality of pixels having a plurality of sub-pixels;

each of the plurality of sub-pixels having a light emitting element, a first thin film transistor, a second thin film transistor, and a third thin film transistor,

said method comprising the steps of:

turning on the first thin film transistor in a same period in all of the plurality of sub-pixels;

providing an electric potential of a digital video signal to a gate electrode of the second thin film transistor during the first thin film transistor is on;

controlling switching of the second thin film transistor by the electric potential of the digital video signal to select whether the light emitting element emits a light or not;

wherein the light emitting element does not emit the light when the third thin film transistor is on;

controlling a period of time in which the light emitting element emits the light in each of the plurality of sub-pixels by the digital video signal to thereby control a gradation of the respective pixels,

wherein each of the plurality of sub-pixels has a same area of effective light emission.

8. (Currently Amended) A method of operating a light emitting device,
said light emitting device comprising:

- a plurality of pixels;
- each of the plurality of pixels having a plurality of sub-pixels; and
- each of the plurality of sub-pixels having a light emitting element, a first thin film transistor, a second thin film transistor, a third thin film transistor, a source signal line, a writing gate signal line, an erasing gate signal line, and a power supply line[[:]] ,

wherein a gate electrode of the first thin film transistor ~~being~~ is electrically connected to the writing gate signal line;

~~a source region and a drain region of the first thin film transistor;~~

wherein one of ~~the~~ a source region and ~~a drain regions~~ a drain region of the first thin film transistor is electrically connected to the source signal line while the other thereof is electrically connected to a gate electrode of the second thin film transistor;

wherein a source region of the second thin film transistor ~~being~~ is electrically connected to the power supply line and a drain region of the second thin film transistor ~~being~~ is electrically connected to a pixel electrode of the light emitting element;

wherein a gate electrode of the third thin film transistor ~~being~~ is electrically connected to the erasing gate signal line; and

~~a source region and a drain region of the third thin film transistor;~~

wherein one of ~~the~~ a source region and ~~a drain regions~~ a drain region of the third thin film transistor is electrically connected to the power supply line and the other thereof is electrically connected to the gate electrode of the second thin film transistor,

said method comprising the steps of:

selecting writing gate signal lines of the plurality of pixels in a same period; and

controlling a period of time in which the light emitting element emits a light in each of the plurality of sub-pixels by a digital video signal inputted to the source signal line to thereby control a gradation of each of the plurality of pixels,

wherein each of the plurality of sub-pixels has a same area of effective light emission.

9. (Currently Amended) A method of operating a light emitting device,

said light emitting device comprising:

a plurality of pixels;

each of the plurality of pixels having a plurality of sub-pixels; and

each of the plurality of sub-pixels having a light emitting element, a first thin film transistor, a second thin film transistor, a third thin film transistor, a source signal line, an erasing gate signal line, and a power supply line[[:]] ,

wherein the plurality of sub-pixels in a same pixel have commonly a writing gate signal line;

wherein a gate electrode of the first thin film transistor ~~being~~ is electrically connected to the writing gate signal line;

~~a source region and a drain region of the first thin film transistor;~~

wherein one of ~~the~~ a source region and a drain regions region of the first thin film transistor is electrically connected to the source signal line and the other thereof is electrically connected to a gate electrode of the second thin film transistor;

wherein a source region of the second thin film transistor ~~being~~ is electrically connected to the power supply line and a drain region of the second thin film transistor ~~being~~ is electrically connected to

a pixel electrode of the light emitting element;

wherein a gate electrode of the third thin film transistor ~~being~~ is electrically connected to the erasing gate signal line; and

~~a source region and a drain region of the third thin film transistor;~~

wherein one of ~~the~~ a source region and a drain regions region of the third thin film transistor is electrically connected to the power supply line and the other thereof is electrically connected to the gate electrode of the second thin film transistor,

said method comprising the steps of:

selecting writing gate signal lines of the plurality of pixels in a same period; and

controlling a period of time in which the light emitting element emits a light in each of the plurality of sub-pixels by a digital video signal inputted to the source signal line to thereby control a gradation of each of the plurality of pixels,

wherein each of the plurality of sub-pixels has a same area of effective light emission.

10. (Currently Amended) A method of operating a light emitting device,

said light emitting device comprising:

a plurality of pixels;

each of the plurality of pixels having a plurality of sub-pixels; and

each of the plurality of sub-pixels having a light emitting element, a first thin film transistor, a second thin film transistor, a third thin film transistor, a source signal line, a writing gate signal line, and an erasing gate signal line[[:]] ,

wherein the plurality of sub-pixels in a same pixel have commonly a power supply line;

wherein a gate electrode of the first thin film transistor ~~being~~ is electrically connected to the

writing gate signal line;

~~a source region and a drain region of the first thin film transistor;~~

wherein one of the a source region and a drain regions region of the first thin film transistor is electrically connected to the source signal line and the other thereof is electrically connected to a gate electrode of the second thin film transistor;

wherein a source region of the second thin film transistor ~~being~~ is electrically connected to the power supply line and a drain region of the second thin film transistor ~~being~~ is electrically connected to a pixel electrode of the light emitting element;

wherein a gate electrode of the third thin film transistor ~~being~~ is electrically connected to the erasing gate signal line; and

~~a source region and a drain region of the third thin film transistor;~~

wherein one of the a source region and a drain regions region of the third thin film transistor is electrically connected to the power supply line and the other thereof is electrically connected to the gate electrode of the second thin film transistor,

said method comprising the steps of:

selecting writing gate signal lines of the plurality of pixels in a same period; and

controlling a period of time in which the light emitting element emits a light in each of the plurality of sub-pixels by a digital video signal inputted to the source signal line to thereby control a gradation of each of the plurality of pixels,

wherein each of the plurality of sub-pixels has a same area of effective light emission.

11. (Currently Amended) A method of operating a light emitting device,

said light emitting device comprising:

a plurality of pixels;

each of the plurality of pixels having a plurality of sub-pixels; and

each of the plurality of sub-pixels having a light emitting element, a first thin film transistor, a second thin film transistor, a third thin film transistor, a source signal line, and an erasing gate signal line[[:]] ,

wherein the plurality of sub-pixels in a same pixel have commonly a writing gate signal line and a power supply line;

wherein a gate electrode of the first thin film transistor ~~being~~ is electrically connected to the writing gate signal line;

~~a source region and a drain region of the first thin film transistor;~~

wherein one of ~~the~~ a source region and ~~a drain regions~~ region of the first thin film transistor is electrically connected to the source signal line and the other thereof is electrically connected to a gate electrode of the second thin film transistor;

wherein a source region of the second thin film transistor ~~being~~ is electrically connected to the power supply line and a drain region of the second thin film transistor ~~being~~ is electrically connected to a pixel electrode of the light emitting element;

wherein a gate electrode of the third thin film transistor ~~being~~ is electrically connected to the erasing gate signal line; and

~~a source region and a drain region of the third thin film transistor;~~

wherein one of ~~the~~ a source region and ~~a drain regions~~ region of the third thin film transistor is electrically connected to the power supply line and the other thereof is electrically connected to the gate electrode of the second thin film transistor,

said method comprising the steps of:

selecting writing gate signal lines of the plurality of pixels in a same period; and
controlling a period of time in which the light emitting element emits a light in each of
the plurality of sub-pixels by a digital video signal inputted to the source signal line to thereby control a
gradation of the respective pixels,

wherein each of the plurality of sub-pixels has a same area of effective light emission.

12. (Original) A method according to claim 7,

wherein the first thin film transistor in each of the plurality of sub-pixels has a same polarity.

13. (Original) A method according to claim 7,

wherein the second thin film transistor in each of the plurality of sub-pixels has a same polarity.

14. (Original) A method according to claim 7,

wherein the third thin film transistor in each of the plurality of sub-pixels has a same polarity.

15. (Original) A device according to claim 4,

wherein the electronic apparatus is one selected from the group consisting of an electro-
luminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer,
an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a
mobile phone (cellular phone), a front-type projector and a rear-type projector.

16. (Original) An electronic apparatus using the light emitting device of claim 2.

17. (Original) A device according to claim 16,

wherein the electronic apparatus is one selected from the group consisting of an electroluminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer, an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a mobile phone (cellular phone), a front-type projector and a rear-type projector.

18. (Original) A method according to claim 5,

wherein the light emitting device is in combination with an electronic apparatus,

wherein the electronic apparatus is one selected from the group consisting of an electroluminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer, an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a mobile phone (cellular phone), a front-type projector and a rear-type projector.

19. (Original) A method according to claim 6,

wherein the light emitting device is in combination with an electronic apparatus,

wherein the electronic apparatus is one selected from the group consisting of an electroluminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer, an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a mobile phone (cellular phone), a front-type projector and a rear-type projector.

20. (Original) A method according to claim 7,

wherein the light emitting device is in combination with an electronic apparatus,

wherein the electronic apparatus is one selected from the group consisting of an electro-

luminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer, an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a mobile phone (cellular phone), a front-type projector and a rear-type projector.

21. (Original) A method according to claim 8,
wherein the first thin film transistor in each of the plurality of sub-pixels has a same polarity.

22. (Original) A method according to claim 8,
wherein the second thin film transistor in each of the plurality of sub-pixels has a same polarity.

23. (Original) A method according to claim 8,
wherein the third thin film transistor in each of the plurality of sub-pixels has a same polarity.

24. (Original) A method according to claim 8,
wherein the light emitting device is in combination with an electronic apparatus,
wherein the electronic apparatus is one selected from the group consisting of an electro-luminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer, an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a mobile phone (cellular phone), a front-type projector and a rear-type projector.

25. (Original) A method according to claim 9,
wherein the first thin film transistor in each of the plurality of sub-pixels has a same polarity.

26. (Original) A method according to claim 9,
wherein the second thin film transistor in each of the plurality of sub-pixels has a same polarity.

27. (Original) A method according to claim 9,
wherein the third thin film transistor in each of the plurality of sub-pixels has a same polarity.

28. (Original) A method according to claim 9,
wherein the light emitting device is in combination with an electronic apparatus,
wherein the electronic apparatus is one selected from the group consisting of an electroluminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer, an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a mobile phone (cellular phone), a front-type projector and a rear-type projector.

29. (Original) A method according to claim 10,
wherein the first thin film transistor in each of the plurality of sub-pixels has a same polarity.

30. (Original) A method according to claim 10,
wherein the second thin film transistor in each of the plurality of sub-pixels has a same polarity.

31. (Original) A method according to claim 10,
wherein the third thin film transistor in each of the plurality of sub-pixels has a same polarity.

32. (Original) A method according to claim 10,

wherein the light emitting device is in combination with an electronic apparatus,

wherein the electronic apparatus is one selected from the group consisting of an electroluminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer, an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a mobile phone (cellular phone), a front-type projector and a rear-type projector.

33. (Original) A method according to claim 11,

wherein the first thin film transistor in each of the plurality of sub-pixels has a same polarity.

34. (Original) A method according to claim 11,

wherein the second thin film transistor in each of the plurality of sub-pixels has a same polarity.

35. (Original) A method according to claim 11,

wherein the third thin film transistor in each of the plurality of sub-pixels has a same polarity.

36. (Original) A method according to claim 11,

wherein the light emitting device is in combination with an electronic apparatus,

wherein the electronic apparatus is one selected from the group consisting of an electroluminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer, an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a mobile phone (cellular phone), a front-type projector and a rear-type projector.

37-42. (Canceled)

43. (New) A light emitting device comprising:

a plurality of pixels;

each of the plurality of pixels having a plurality of sub-pixels; and

each of the plurality of sub-pixels having a light emitting element, a first thin film transistor, a second thin film transistor, a third thin film transistor, a source signal line, a writing gate signal line, an erasing gate signal line, and a power supply line,

wherein a gate electrode of the first thin film transistor is electrically connected to the writing gate signal line,

wherein one of a source region and a drain region of the first thin film transistor is electrically connected to the source signal line and the other thereof is electrically connected to a gate electrode of the second thin film transistor;

wherein a source region of the second thin film transistor is electrically connected to the power supply line and a drain region of the second thin film transistor is electrically connected to a pixel electrode of the light emitting element;

wherein a gate electrode of the third thin film transistor is electrically connected to the erasing gate signal line;

wherein one of a source region and a drain region of the third thin film transistor is electrically connected to the power supply line and the other thereof is electrically connected to the gate electrode of the second thin film transistor; and

wherein each of the plurality of sub-pixels has a same area of effective light emission.

44. (New) A light emitting device comprising:

a plurality of pixels;
 each of the plurality of pixels having a plurality of sub-pixels; and
 each of the plurality of sub-pixels having a light emitting element, a first thin film transistor, a second thin film transistor, a third thin film transistor, a source signal line, an erasing gate signal line, and a power supply line,
 wherein the plurality of sub-pixels in a same pixel have commonly a writing gate signal line;
 wherein a gate electrode of the first thin film transistor is electrically connected to the writing gate signal line;
 wherein one of a source region and a drain region of the first thin film transistor is electrically connected to the source signal line and the other thereof is electrically connected to a gate electrode of the second thin film transistor;
 wherein a source region of the second thin film transistor is electrically connected to the power supply line and a drain region of the second thin film transistor is electrically connected to a pixel electrode of the light emitting element;
 wherein a gate electrode of the third thin film transistor is electrically connected to the erasing gate signal line;
 wherein one of a source region and a drain region of the third thin film transistor is electrically connected to the power supply line and the other thereof is electrically connected to the gate electrode of the second thin film transistor; and
 wherein each of the plurality of sub-pixels has a same area of effective light emission.

45. (New) A light emitting device comprising:

a plurality of pixels;

each of the plurality of pixels having a plurality of sub-pixels; and

each of the plurality of sub-pixels having a light emitting element, a first thin film transistor, a second thin film transistor, a third thin film transistor, a source signal line, a writing gate signal line, and an erasing gate signal line,

wherein the plurality of sub-pixels in a same pixel have commonly a power supply line;

wherein a gate electrode of the first thin film transistor is electrically connected to the writing gate signal line;

wherein one of a source region and a drain region of the first thin film transistor is electrically connected to the source signal line and the other thereof is electrically connected to a gate electrode of the second thin film transistor;

wherein a source region of the second thin film transistor is electrically connected to the power supply line and a drain region of the second thin film transistor is electrically connected to a pixel electrode of the light emitting element;

wherein a gate electrode of the third thin film transistor is electrically connected to the erasing gate signal line;

wherein one of a source region and a drain region of the third thin film transistor is electrically connected to the power supply line and the other thereof is electrically connected to the gate electrode of the second thin film transistor; and

wherein each of the plurality of sub-pixels has a same area of effective light emission.

46. (New) A light emitting device comprising:

a plurality of pixels;

each of the plurality of pixels having a plurality of sub-pixels; and

each of the plurality of sub-pixels having a light emitting element, a first thin film transistor, a second thin film transistor, a third thin film transistor, a source signal line, and an erasing gate signal line,

wherein the plurality of sub-pixels in a same pixel have commonly a writing gate signal line and a power supply line;

wherein a gate electrode of the first thin film transistor is electrically connected to the writing gate signal line;

wherein one of a source region and a drain region of the first thin film transistor is electrically connected to the source signal line and the other thereof is electrically connected to a gate electrode of the second thin film transistor;

wherein a source region of the second thin film transistor is electrically connected to the power supply line and a drain region of the second thin film transistor is electrically connected to a pixel electrode of the light emitting element;

wherein a gate electrode of the third thin film transistor is electrically connected to the erasing gate signal line;

wherein one of a source region and a drain region of the third thin film transistor is electrically connected to the power supply line and the other thereof is electrically connected to the gate electrode of the second thin film transistor; and

wherein each of the plurality of sub-pixels has a same area of effective light emission.

47. (New) A light emitting device according to claim 43,

wherein the first thin film transistor in each of the plurality of sub-pixels has a same polarity.

48. (New) A light emitting device according to claim 43,
wherein the second thin film transistor in each of the plurality of sub-pixels has a same polarity.

49. (New) A light emitting device according to claim 43,
wherein the third thin film transistor in each of the plurality of sub-pixels has a same polarity.

50. (New) An electronic apparatus having a light emitting device according to claim 43,
wherein the electronic apparatus is one selected from the group consisting of an electroluminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer, an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a mobile phone (cellular phone), a front-type projector and a rear-type projector.

51. (New) A light emitting device according to claim 44,
wherein the first thin film transistor in each of the plurality of sub-pixels has a same polarity.

52. (New) A light emitting device according to claim 44,
wherein the second thin film transistor in each of the plurality of sub-pixels has a same polarity.

53. (New) A light emitting device according to claim 44,
wherein the third thin film transistor in each of the plurality of sub-pixels has a same polarity.

54. (New) An electronic apparatus having a light emitting device according to claim 44,
wherein the electronic apparatus is one selected from the group consisting of an electro-

luminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer, an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a mobile phone (cellular phone), a front-type projector and a rear-type projector.

55. (New) A light emitting device according to claim 45,
wherein the first thin film transistor in each of the plurality of sub-pixels has a same polarity.

56. (New) A light emitting device according to claim 45,
wherein the second thin film transistor in each of the plurality of sub-pixels has a same polarity.

57. (New) A light emitting device according to claim 45,
wherein the third thin film transistor in each of the plurality of sub-pixels has a same polarity.

58. (New) An electronic apparatus having a light emitting device according to claim 45,
wherein the electronic apparatus is one selected from the group consisting of an electroluminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer, an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a mobile phone (cellular phone), a front-type projector and a rear-type projector.

59. (New) A light emitting device according to claim 46,
wherein the first thin film transistor in each of the plurality of sub-pixels has a same polarity.

60. (New) A light emitting device according to claim 46,
wherein the second thin film transistor in each of the plurality of sub-pixels has a same polarity.

61. (New) A light emitting device according to claim 46,
wherein the third thin film transistor in each of the plurality of sub-pixels has a same polarity.

62. (New) An electronic apparatus having a light emitting device according to claim 46,
wherein the electronic apparatus is one selected from the group consisting of an electroluminescence display device, a digital still camera, a laptop (note-size) computer, a mobile computer, an image reproduction apparatus, a goggle type display (head mounted display), a video camera, a mobile phone (cellular phone), a front-type projector and a rear-type projector.